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FEBRUARY, MDCCCLX.

THE ZOOLOGIST:

A

POPULAR MONTHLY MAGAZINE

OF

NATURAL HISTORY,

AND

JOURNAL FOR RECORDING FACTS AND ANECDOTES

RELATING TO

QUADRUPEDS, BIRDS, REPTILES, FISHES, ANNELIDES,
INSECTS, WORMS, ZOOPHYTES, &c.

THEIR HABITS, FOOD, RETREATS, OCCASIONAL APPEARANCE,
MIGRATIONS, NESTS AND YOUNG.

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Mr. Smith further observed that, for his own part, he could not, as the question stood, but think that there had been some defective observation, and that further and more close attention to the subject might possibly prove this to have been the case. Dr. Ormerod got over the difficulty by supposing some of the small queens—or large workers, as they in fact are—hybernated throughout the winter, being, like the queens, impregnated the previous season; but to this Mr. Smith could not assent; it was contrary to the observations of all previous observers. He had himself found, during his researches the last twenty years, great numbers of hybernating wasps, but all had been the large queens: he had never known of a single worker having been thus discovered. If worker wasps hybernated, and were capable of continuing their kind, whence any necessity for queen-wasps at all?—*E. S.*

Notes on the Mountain Birds of Jamaica.

By W. Osburn, Esq.*

"Dover, Metcalfe, Jamaica,
November 29, 1859.

"My dear Sir,—The notes I proposed sending you related to bats—not, I am sorry to say, to the 'Dolphin's Head.' I visited it during the first few months of my residence in the island. My acquaintance with its Ornithology was then only commencing, and an important engagement obliged me to hurry through my tour as rapidly as possible. I only spent a couple of nights there, and the intervening day was fully occupied in the ascent for the view. Indeed I have not a single note about birds, though I have since had reason to suppose there was much that would have repaid investigation. I noticed many remarkable plants there I have not seen elsewhere, and among others a Melastomaceous tree, with large white flowers, closely allied to Blakea trinerva (?), whose rose-coloured blossoms are so common in lofty woods; and my host pointed out to me some large trees which Mr. Purdie, the well-known botanist, when there, had assured him had never been described, for, being something of a botanist himself, he took an amusing pride as the possessor of trees Science knew nothing about. This, however, I noticed, that the white tertiary limestone extended to the top, or so far as I went, and it must therefore be by far the loftiest peak of this formation. . . . .

"My reasons for asking you about your extracts from Dr. Robinson's MSS. were two. In the first place, we have, as I anticipated, in the mountains of the east end, another dove. I have not been able to ascend the mountain woods at this season myself, and the confusion

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* Communicated by P. H. Gosse, Esq., F.R.S.

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is great between 'Mountain Witch' and 'Blue Dove.' A number of Geotrygon sylvatica* were brought to me as 'Blue Doves;' the 'Mountain Witch' was then said to be quite different,—dark blue, with a red 'mouth;' other negroes, on the contrary, reverse the names. But I think we shall probably find that it is another Geotrygon, which you heard of as the 'Blue Partridge.' But my second reason was, that I saw a note in the 'Transactions of the Jamaica Society of Arts,' enquiring after the volumes, accompanied by a statement that on the dissolution of the 'Jamaica Society,' they were handed over to Dr. Macfadyen to be presented to the old Doctor's College library—Glasgow, I think. Dr. Macfadyen soon after died, and these valuable notes had never since been heard of. I am afraid the old Doctor is a lost classic; all we shall ever know of him is contained in your plates and quotations. . . . .

"With regard to the Convolvuli, &c., you mention as climbing over dry-built walls in mountain districts, it may perhaps be of some interest if I mention that in the Freeman's Hall district I do not know a single instance, with one exception, of a stone wall. They are among the few architectural but very characteristic remains of slavery. To build them now is vastly beyond the means of the present proprietary, even if the labour could be got at any price; rarely more is done than just keep them in repair, and very often I have seen them used to mend the roads. Freeman's Hall was standing forest till after Emancipation, consequently the gigantic trunks of the ancient woods still lie decaying across the oldest clearings. If fences are wanted, live-hedges are resorted to, as much cheaper; so that the particular plants you mention scarcely exist there. . . . .

"The mountains of the transition shale, as Sir H. de la Beche has termed it, here come down so close to the sea, that there is, so to speak, only room for a single estate between this and their base. This little strip of sea-bord lies extremely low, and is very badly drained, forming a chain of swamps and lagoons just behind the beach. Just here, by draining, it has been rendered fit for canes; but the water, as numerous aquatic plants show, always stands stagnant to some depth in the trenches. Over these pieces, when the mornings are bright, Acanthylis comes down (I presume from the lofty mountains behind) in larger numbers than I have ever before seen. I hear them arrive, screaming, just after daybreak, and when I get out find them busy hawking over these particular pieces. I have been unable to shoot one to ascertain what is the attraction. But I may mention that fine calm weather on the north-east coast is, I am assured, most unusual during these 'northy' months, and probably a very considerable hatch of insects, whose larvæ are aquatic, takes place during the warm bright mornings succeeding a 'north:' they remain for about a couple of hours, and then disappear for the rest of the day. But I propose reserving for my next letter some notice of the birds which frequent this north-eastern sea-bord during the winter months, and devoting the present one to a few remarks on the flight and habits of a bird an ordinary observer would not fail to remark had many striking points of resemblance to Acanthylis; I mean Chordeiles Virginianus. You will not, I hope, think it superfluous, if, as a standard of comparison, I first of all advert to a few well-known characteristics of the habits and structure of the Hirundinidæ. I have seen it stated that the unusual dilatation of the œsophagus in these birds at the point it leaves the fauces is a contrivance which serves as a crop. I do not know whether this opinion is one generally received, but I do not think it could be at all confirmed by observations on our swallows here: it is generally quite empty, even though the stomach be crammed, or sometimes there is a single insect evidently taken at the moment the bird was shot, or more rarely four or five insects, but then I remark that the whole are of one species. I have a note made at the time where this was the case in an H. euchrysea I shot after observing it some time. In this instance they were all a small species of Ichneumonidæ. Now this would look, not as if the dilated œsophagus served as a crop, but as if the interval occupied in snapping up the five insects was so short that there was not time for swallowing the first before the fifth had joined it, which can rarely be the case, except in a swarm of insects. Now I think the Naturalist of Selborne long ago made the remark that swallows may very frequently be observed to take insects so rapidly one after the other that it is evident the bird must have had both or all in its eye, so to speak, at the same time; but to accomplish this it is obvious how important it is to the bird to be able to move with a certain velocity, otherwise before he came up the relative positions of the floating points would have materially changed. With a body moving freely through a fluid this velocity could in no other way be so easily acquired or maintained as by keeping for certain distances in one direction, or by impetus, and accordingly, as is well known, the flight of swallows is very generally a swoop in a straight line, or a curve of great length, then a rapid turn and the same manœuvres are repeated in an opposite direction. And thus we may observe in the well-known structure of the swallow the utmost care lavished in the most minute particulars that impetus may be economized in every possible way. The flatness of the crown, the puffiness of the loral and gular feathers, leaving no angles about the bill, the peculiar curve of the ventral surface, carried by the lengthening of the under tail-coverts with a clean sweep to the tail, and above all the reduction of the mass of the plumage by the diminution of the size of each feather, which have their exposed surfaces polished,—contrivances all evidently tending to the same end. What is the distance at which a swallow can see an insect we can of course only surmise, for the ray reflected from these minute points floating in the air is not perceptible to the human eye during ordinary daylight, but if the insect intercept the ray, then its vibrating gauzy wings enable us to see it at a considerable distance. On a bright, calm evening, I find, when looking towards the sun, I can see very small floating insects at ten or twelve yards. May we suppose the eye of the swallow has the same power where the ray is reflected? And further it may be remarked that, in accordance with this mode of taking prey, swallows very rarely pause in their flight or raise the wings above the plane of the back. On the contrary, the tips of the motionless extended wings are usually rather depressed (in the swifts remarkably so), or having gained the required impetus by a number of vigorous strokes, they shoot along with the wing much bent at the flexure,—a position in which it seems to offer least impediment to the onward rush, and is still available for modulating it in the most delicate manner.

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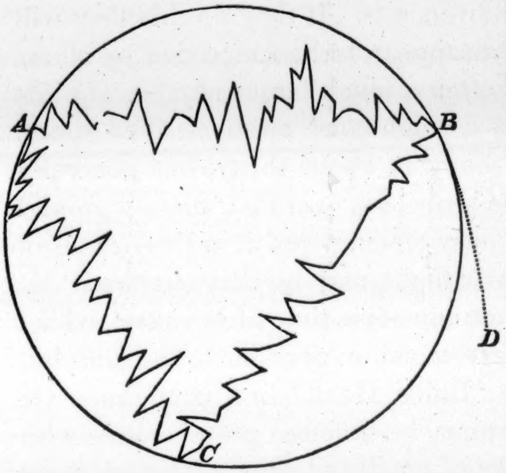
* Some excellent naturalists in using this name of mine, have altered "sylvatica" to "sylvaticum," as if I had been guilty of a false concord. But as *τϱυγὼν*, a dove, is a feminine and not a neuter noun, I must protest against the alteration.—*P. H. G.*

"The flight of these birds was thus to be adapted to pass in succession through a certain number of floating points. To do this a certain velocity was necessary, as the points are moving in every direction. But this velocity supposes, in such circumstances, the constant acquirement of a certain amount of impetus,—a force very favourable to the bird, for it counteracts other opposing forces and greatly relieves it. Every care is therefore taken to preserve it, by structure and direction of flight. It also leaves the bird the use of its wings to modulate with great exactitude this direction in a greater degree doubtless than with the generality of birds, as we know that a ship with a certain amount of 'way' will steer best. As we have every reason to believe that a certain appreciable time is necessary for a ray of light to make a distinct impression on the organs of other animals, exactly as with our own, it follows that the rays whose direction is parallel to the course of the bird will dwell longest on the eye, and those perpendicular to this course shortest. The objects, therefore, in front will be distinct; the lateral ones distinguished with difficulty. Without, therefore, attempting too vigorous a definition, we may say that the flight of a swallow is on the plan of a straight line or lengthened curve passing through a certain number of points; and, to accomplish this, advantage is taken of two great physical laws,—one of dynamics, that a body moving in one direction will acquire an impetus,—and the other a law of optics, that rays of light require a certain time to make a distinct impression on the retina. Now in this mode of taking living prey in the air, wonderful as is its efficacy, there is one condition absolutely necessary to its success: there must be a certain amount of light. If we reduce the light the range of the swallow's sight will be in proportion curtailed till, though he may take one insect, he will not be able, at the same time, to have his eye upon one beyond it, and will therefore feed much slower. If the light be still further reduced, the impetus, so important before, will absolutely be in the bird's way, for the range of sight will be so short that it will be carried past the insect before it has time to direct its motion so as to take it. If, on a calm evening, when the piramidigs (Chordeiles) are busy overhead, we go out and attempt to see an insect, even in the most favourable positions, it will be understood how very small an amount of light is requisite to these birds to catch an immense number of their minute prey. It becomes, therefore, very interesting to attempt to trace, as far as observation enables us, the mode in which this new condition of the bird's existence has been provided for and met.

"The increased size of the eye and gape do not need comment. This is accompanied also by a great increase in the size of the feathers, by which the bulk of the plumage, relatively to the body of the bird, is rendered much greater than with the swallow. The tail-feathers are much produced, so that though the total length of Chordeiles is half an inch more than that of Acanthylis, the real length of the body is half an inch shorter.

"By this arrangement it is obvious that the bird will suffer a great loss in impetus. It could not move at the rate of a swallow, without vastly greater exertion, but in exact proportion it has gained in buoyancy, and can turn, stop, move suddenly, laterally, or up or down, in a manner that would require with the latter the most vigorous muscular exertion, impossible to be long continued. The use to which the piramidig puts his new power appears to be this; the shortening of his range of sight by the diminished light is compensated by the increased number of rays that are useful to him. He is moving very slowly, pausing often on upraised wings. The lateral and oblique rays, to the swallow indistinct, to him are clear and accurate. His increased buoyancy enables him to change his direction exactly as he pleases: hence he jerks to one side, takes an insect; jerks back again, takes another; drops down several feet, stops with a jerk and takes a third; in fine, as the light diminishes, his contortions, zigzags, jerks, swoops, irregular movements of every sort, become more and more violent, till one can scarcely believe they are performed with the perfect ease to these curious birds which their long continuance and analogy on every side assure us they must be: and as we may define the mode of hunting of the Hirundinidæ to be by straight lines of vision or a pencil of rays of great length but small angle, so that of the long-winged Caprimulgidæ is by hemispheres of vision or pencils of rays of much shorter length, but of much greater angle. And this explanation of the peculiar mode of hunting with the piramidigs seems to receive considerable confirmation from similarity of movement in the high-flying bats, by which they are so frequently joined —a species, as I believe, of Chilonycteris. The bat pursues a direct course, subject to very frequent and violent divergences laterally and downwards. If we wished to represent the waves of sound reaching the ear of the bat from a number of insects among which it was passing, it would be of course by a number of converging lines, exactly as rays of light from the same insects to the eye of a piramidig.

"Though during the spring and summer months the appearance of the piramidigs, both in mountain and lowlands, is almost constant, their manœuvres are by no means always the same. Generally a single bird first appears, uttering its harsh but not unpleasant rattle, takes a long sweep, pauses on raised wings, plunges, and sweeps on again. I have often then remarked that the flight may be represented by a series of rises and falls, the cry always commencing exactly before the bird reaches the turning points. The blowing noise is produced by one of these falls of unusual depth, which I estimate variously from fifty to a hundred and fifty feet, the sound occurring at the curve of recovery, which the bird makes with great rapidity. The original height is then gained by a rise or two higher than the succeeding falls. It is worthy of remark, as showing the difference in buoyancy of the two species, that during the great descent very considerable action of the wings is observable in Chordeiles, and an oscillation amounting to a half or quarter turn of the body in alternate directions, reminding us of 'shooting' rooks, but the same manœuvre is performed by Acanthylis without any apparent motion of the wings—a simple downward plunge owing its rapidity to impetus and gravitation alone. Whilst the first piramidig is pursuing this erratic course its cries will be answered by a second and perhaps a third, which will gradually approach with similar movements. If they do this they will generally take a wide sweep and disappear, to be succeeded by others or return after a time. But very often a much larger number of birds may be seen steadily moving over a much more circumscribed space. I have seen them amount to as many as about thirty, but generally less. Not a sound is uttered; the birds beat over their chosen ground unceasingly; they are evidently busy feeding, and it is then some of the most remarkable points of their flight may be best observed. It was out of a flock of this sort I shot one some time after sunset, whilst they were beating over a steep narrow valley peculiar to the porphyritic conglomerate, close to the 'Bull's Head,' in Clarendon. On dissection I found the capacious stomach stuffed to protuberance with the winged portion of a community of small red ants. Though there were a very great number of insects, and all in a perfectly uninjured state, I could not detect a single individual of another species among them. It would of course not be safe to lay too much stress on two solitary examples, but it is very remarkable that in the one dissected by yourself ('Birds of Jamaica,' p. 40) the contents of the stomach should prove 'almost (if not quite)' composed of a single species of beetle, whereas in mine they were a single species of ant. The only inference which it seems possible to draw from this, as we know many species of insects are appropriate food to these birds, is, that (like Acanthylis) they are swarm-destroyers: hence their beating over circumscribed spaces, as over the steep little valley I observed, or the clump of flowering trees noted by Mr. Hill (p. 39), or, as it may be often also remarked, over a pond or water in some shape. Now, as far as I am able to observe, a swarm of insects, though often quite irregular in shape, frequently assume a spherical or ellipsoid form, the major axis vertical; and this, it is obvious, will frequently be the case where a common object of attraction, as a pond or particular tree, keeps the insects together, and still more where, as in the swarming of an immense formicary, the attraction of the insects is for each other. A section of such a swarm may then be represented by a circular line. In the instance I have above alluded to there were with Chordeiles, even at that late hour, two or three Acanthylis feeding on the same prey, and it becomes very interesting thus to compare, on the spot, the motions of the two species. On arriving at the edge of the swarm, as is well known, the almost constant habit of the Hirundinidæ is to make a very rapid wheel, one wing much depressed, so that the whole expanse takes an oblique direction. The object of this is sufficiently obvious, *viz.* to reverse the direction of flight with the least possible exertion and the greatest possible economy of impetus. We know that in skating, and many other examples besides from theory, there is none so efficacious as this.



But the piramidig, as has been before shown, has no impetus, for he has been dashing about in every direction, and if he has had no reason for preserving it, and consequently goes the simplest way to work, by a single blow of the wings bolts round at an angle. It is this angular turn that is one of the chief distinctions between the flight of the two birds. Now let us suppose that a piramidig enters the swarm at the point A of the circle I have drawn: he zigzags, tumbles and jerks in a tolerably straight line till he arrives at B. Here he finds himself at the edge of the swarm; the insects become very scattered, so he bolts round at an angle; but it is of course of some consequence what sort of an angle this is. Suppose he did not turn enough—made the angle too obtuse—it is obvious that he would go out of the swarm to D; if the angle were too acute, that, like a swallow, he would return nearly on his former course. But this he does not do, and we can easily understand that his dashes and flutterings have created far more havoc and dismay than the rapid glide of the other: he therefore takes any other angle between these two. Let us suppose a right angle or something like it. He dashes on in the same way till he comes to the point C. Now it is plain if he made a right angle again it would take him out of the circle; he therefore makes any angle less than a right angle, and arrives at A again. Of course these angles may be constantly varied, but they will tend to equal two right angles. But, I would remark, this mode of flight is by no means constant, and can be only occasionally observed, perhaps partly from the difficulty of keeping in the mind the bird's previous courses; but it will be seen, that,—provided the requisite data be present,—

"1. That the swarm of insects is spheroid, which it will constantly tend to be for the reasons before given.

"2. That the mean of the divergences of the bird's flight equals a tolerably straight line, which we may observe it very often does, because, as has been shown, the bird's attention is directed laterally as much to one side as the other.

"3. That in making the angle at the circumference it will be such that he shall keep nearest the middle and densest portion of the swarm, but furthest from his own previous course.

"Then it is mathematically certain his flight will be in triangles, as your observant coadjutor Mr. Hill long ago remarked. It is quite impossible for us to devise a plan by which, with less loss of time, he could keep so constantly near the middle and distant from his previous flight. I need hardly add that the triangle is by no means always equilateral, as, for the sake of clearness, I have given it.

"I have never been able to ascertain anything respecting the diurnal repose of these birds; but large cotton trees have been pointed out, whence, the neighbours assured me, the piramidigs were seen to issue every evening. The universal negro answer is, 'Him no go in tree and lie down, like a galliwasp?' This would not be of much value were it not for your observation of this habit.* It seems to me that this is really the normal mode of repose, not only if we consider its efficacy, but from the peculiar formation of the foot, which, as is well known, has the short hallux placed very laterally. In the short-winged Caprimulgus I have met with, the tarsus-joint is also worn as if it were constantly rested on.

"Very faithfully yours,

"W. Osburn.

"To P. H. Gosse, Esq."

A List of the Birds of Banffshire, accompanied with Anecdotes.

By Thomas Edward.

(Continued from page 6672.)

Kingfisher (*Alcedo ispida*). Several of these sparkling gems have been taken here at different times.

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* See 'Birds of Jamaica,' p. 37. I shot a night-hawk by day, resting lengthwise on a branch of a tree. See also the remarks of Mr. Bartlett on the European nightjar, in the 'Zoologist' (Zool. 445), "It is a constant habit of these birds to perch lengthwise, with the head lowest,—that is, inwards to the tree."—*P. H. G.*

Swallow (*Hirundo rustica*) and Martin (*H. riparia*). These birds are in about equal numbers. The latter generally nestles in the corners of windows, the former in barns, &c.; they also breed along the sea-shore wherever there is a cave or projecting rock suitable. White and cream-coloured varieties are sometimes met with.

Sand Martin (*H. urbica*). Wherever there is a bank of any height and not too hard, whether along the sea-shore or river-side, or a quarry or sand-hole, a colony of these active little creatures are almost sure to be met with during summer. It is surprising to see how they perforate these places, and the depth to which they will sometimes go, especially when we consider the remarkably feeble instruments they do it with—a very small and slender bill, and feet equally small and tender; but it is Nature, and all her works are wonderful harmonious, beautiful and sublime.

Swift (*Cypselus apus*). Of all our migratory species this is generally the first to depart and the last to arrive. Next to the skylark the swift appears to ascend highest in his aërial flights; and a very beautiful sight it is to see it, on a clear, still evening, hawking and gamboling about so far above the earth, and, it may be, screaming its farewell requiem to the departing sun. The swift, as I have already stated, is the first to depart, that is, generally towards the end of August or beginning of September, and returns about the middle of May; the sand martin next, or about the second or third week in September, and usually returns about the third week in April; and the swallow and house martin commonly about the first week or middle of October, and reappears about the 1st of May. There is an old nest, a sparrow's I believe, under the roof of a house here, in which a pair of swifts has bred for the last twenty-two years, and how long before I cannot tell. I do not say that they have always been the same birds; but that a pair have done so for the time stated I am quite certain.

Before I part with this interesting tribe I must become a little arithmetical. We are frequently told, and justly, of the great benefit swallows and other insect-feeders do, by the countless herds of noxious creatures which they destroy; and I will relate an instance of my own experience in this respect. Picking up a swallow which had been shot by a friend, I found that its mouth was crammed with flies, some of which were alive, and all seemed attached to the mouth by a glutinous fluid. The bird had apparently been catering for its young. Being desirous of making a further examination, I wrapped it in paper and put it in my pocket. On reaching home I opened the paper, when a number of the flies buzzed out into my face, much to my regret; but I succeeded in counting upwards of 70, and I am quite sure there were more than 100 in all, but, in order to be under the mark, we will say there were 70. Now, it is a well-known fact that both birds assist in rearing their young. Well, say that they visit the nest every ten minutes (which is likewise under the mark), and that every time of doing so each bird conveys 70 insects; this in an hour amounts to 840 ; in a day of twelve hours, which is but a short day for a swallow at that season of the year, to 10,080 ; in a week of seven days, to 70,560 ; and in a fortnight, to 141,120. Now, I think this is a pretty good number for the short space of fourteen days. But if we carry the calculation a little further, by supposing that the birds rear two broods in a season, although the number is often three, we have, at the ratio at which we have been counting, a total of 282,240 insects destroyed by two birds alone in rearing their two broods. It may be said that this is nothing in comparison with the countless numbers of insects which are constantly springing into life during summer. Granted. But let it be borne in mind that I have only been speaking of a single pair of birds, and that, too, on a very limited scale, and exclusive of their own keep. If one pair of birds can do so much, what will not the thousands of swallows and other insectivorous species do ? Most of the insects in the mouth of the one in question consisted of gnats, &c.

Nightjar (*Caprimulgus europæus*). Of late years this species would appear to have become more numerous, but it is still very far from being plentiful.

Ring Dove (*Columba palumbus*), or, as we have it, Cushie Doe. This bids fair to be one of the greatest pests the farmer will have to encounter with respect to his crops. They have increased amazingly within the last few years, and the damage they do is incalculable. This increase is caused by the almost total destruction of the hawk tribe, which aided greatly to thin their numbers.

Rock Dove (*C. livia*). A few pairs frequent and breed in the caverns along our coast, one at Melrose being the most noted. It is a rare case, however, to get a pure specimen, as domestic pigeons from the farms near sometimes breed with them. I have seen white specimens, as well as those of a sand-colour.

Turtle Dove (*C. turtur*). Three or four specimens of this species are said to have been seen, and some of them obtained, within the county, but whether wild ones, or individuals that had escaped, has not been ascertained.

Pheasant (*Phasianus colchicus*). Introduced, but se very well, and is a most beautiful ornament to parks Partially pied varieties sometimes occur, and one ca pheasant" by most people.

Black Grouse (*Tetrao tetrix*). Sparingly. Chiefly i districts.

Red Grouse (*T. exoticus*). On all our moors and hil great numbers.

Ptarmigan (*T. lagopus*). Less frequent than either of Inhabiting only the summits of our highest mountains, t seldom seen than those which frequent the lower grou others of the grouse tribe, they are yearly decreasing in

Partridge (*Perdix cinerea*). Pretty common. A very faithful mother is the female; for when she has eggs sh out, if time permits, without hiding them so carefully tha impossible to detect their whereabouts; and if you take prise, away she hobbles on one leg and a wing, tra ground as if wounded. Poor creature! You pity he maimed, and follow to pick her up. Away she crawl her, and, feeling sure of having her, pounce down. Ha! a comical figure you cut! Where is the half-dead, seve bird gone? Why, flown to be sure, and left you spra ground, like a flounder just cast ashore. You rise satis have been fairly duped. It now occurs to you that y the bird from her nest, and in revenge you resolve to r eggs. But what makes you look so bewildered, turning the points of the compass? "Why, I don't know whic to seek the nest," you exclaim. I believe you, and can experience that you have been led, by a very long, cir far away from it. Wonderful instinct, this! If it is a the same: they will allure him just as they will you, f well as from eggs. But I have neglected to mention a nexion with the red grouse, which shows in a very remar how close the female will at times sit rather than exp Wandering about the Waggle Hill one day, with my fr Rev. Mr. Smith, I chanced to observe a moor-fowl squ ground, amongst the heather close to my feet; in fact, her before I noticed her. Being summer time I at onc nature of the case. On my friend coming up I drew hi the bird over which I stood. "Oh," said he, "she's sur Edward." "Oh, no," I said, "there are either egg

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my friend the late
wl squatted on the
fact, I stood above
at once guessed the
drew his attention to
he's surely dead, Mr.
er eggs or young."

"Well," he added, "if so, it is certainly a very won
stance; but," he continued, "we shall see;" and with
the heather and laid his hand on the bird. "Well," h
is alive, for she is warm; but she must be wounded, a
rise or fly." "Oh, no," I once more said, "she has some
her which she is unwilling to leave;" and she al
stroke her without moving, except turning her head
On my friend's dog 'Sancho' coming up and putting hi
her she creeped away through the bushes for some dist
took to flight, leaving a nest and fifteen eggs expose
Before leaving we carefully closed up the heather again
ceal as much as possible the nest and its beauteous t
need not say that we were both delighted with what
Mr. Smith was particularly struck with the incident, a
seen anything of the kind before; and he often rema
believe that I could not have credited the fact if I h
myself," and always spoke of it with the greatest admir

Quail (*P. coturnix*). That this species is a regula
not prepared to say; but that it is an occasional visi
here, is beyond all doubt. Nests and eggs of this spe
times met with in cutting grass, and are generally p
those of the landrail.

Golden Plover (*Charadrius pluvialis*). Where m
the golden plover is generally to be met with. W
heaths and fields are covered with snow, the plover co
his alpine abode, and stays at the sea-side, where grea
an easy prey to the gun of the sea-side fowler.

Dotterel (*C. morinellus*). Occasionally met with. O
an old keeper from the higher grounds as to wher
breeds, he replied, "On the gray slopes of the highest
above all the other birds, except the ptarmigan."
whether it breeds with us at all.

Ringed Plover (*C. hiaticula*). These breed with u
all the year round. I have found their eggs on the
beach, and forty miles inland. They likewise nestle o
banks and islands along our river-courses. They are
the names of "sea lark" and "sunny liverick."

Gray Plover (*Vanellus melanogaster*). Rather rare,
only a winter visitor.

Lapwing (*V. cristatus*). On heaths and moors, and i
they breed. Many of them leave us towards winter. T

species which will try to mislead you when searching for the eggs. Unless you are really in want of them, I would recommend you to leave them; for of all our field and heath birds the lapwing is one of the most useful in destroying destructive insects, such as Zabrus gibbus, &c.

Turnstone (*Strepsilas interpres*). An occasional visitor, generally in winter. For a curious anecdote of this species see the 'Zoologist' for 1851, p. 3077.

Sanderling (*Calidris arenaria*). A regular visitor, generally arriving in August, a few of them remaining through the winter. I have met with them, too, in summer, when their predominant colour, instead of being whitish, was a most beautiful reddish fawn. On their first arrival here they are very tame, allowing you to approach within a yard or so.

Oystercatcher (*Hæmatopus ostralegus*). Why this bird is called oystercatcher I cannot understand. Had it been named "limpet-catcher" I could have understood it. I have crawled amongst the rocks in order to see them feed, and have seen the limpet driven from its hold, and scooped out of its shell with as much apparent ease as I would have picked up a Gammaris locusta; but I have never seen it attempt to catch an oyster. On this part of the coast its food generally consists of the limpet, and very rarely of Acmæa testitudinalis. I have counted as many as forty-one of the former in the stomach of a single bird, whilst of the latter I have not met with more than three or four examples. The oystercatcher is a summer visitor with us, arriving here to breed. Now and then it may be seen during winter. Large flocks visit us some seasons, generally in September, and after remaining for a day proceed further South. "Sea piet" is the name the bird is known by here.

Heron (*Ardea cinerea*). We have some small spots where these birds breed, but which hardly deserve the name of heronries; at one time, however, they were in greater numbers. "Longlegged sandy" and "craigie" are names given to them here. I remember taking from the stomach of one a large water-rat, three middle-sized trout, and fifteen minnows. Some time ago a person belonging to this town, whilst passing through one of the streets, was startled at being hit on the head by something which had fallen from above, and which proved to be a small fish, the five-bearded rockling *Matella quinquecirrata*), apparently quite fresh. On looking up he saw nothing but a "craigie" passing over the houses, pursued by a number of crows. Of course the fish had dropped from the heron, but he could not be persuaded that it had not dropped from the clouds.

Purple Heron (*A. purpurea*). One of these birds is said to have been shot about thirteen miles from hence. My late friend, the Rev. Mr. Smith, saw fragments of the bird some time afterwards, and believed it to be of this species.

Great White Heron (*A. egretta*). Two of these birds were observed to frequent various parts of our coast about twenty-six years ago. I am not aware of a specimen having been procured.

Bittern (*A. stellaris*). Three or four of these birds are known to have paid us a visit. One in the Banff Museum, a very pretty one, was killed near Banff about twenty-four years since; another in the moss at Park Linteen, and one or two at Balveny, twelve years ago.

Spoonbill (*Platalea leucorodia*). One of these rarities in this part of the world was raised from a ditch in a wood near here, in April, 1848, by a young naturalist of this town: he says it could easily have been shot, for he approached quite close to it, and it did not appear at all shy.

Glossy Ibis (*Ibis falcinellus*). On one occasion I perceived three of these birds about the coast here for a whole day, but could not get a shot at them; it was in the winter and during a very severe storm. I never saw any before nor since.

Curlew (*Numenius arquata*). Plentiful in certain localities along the shore in winter, retiring in spring to the alpine and subalpine districts beyond. Their note in winter is simply "Whaup," with sometimes a loud scream when suddenly come upon. In summer, however, and whilst among the moors and hills, it is more varied, being then "Poo-l-ie, poo-l-ie," then "Coor-lie, coor-lie," with a long "Wha-a-up" at the end. Though ever watchful and always on the alert for intruders, they are then not so shy as when by the seashore.

Whimbrel (*N. phæopus*). Seldom a summer passes but a whimbrel or two may be met with along the shore, and sometimes in some of our mosses. I think they breed with us. The people here consider them young curlews. They are generally very shy when here, and not easily approached. I have seen them in winter, but not often. Their call-note at once distinguishes them from the curlew, even when not seen.

Redshank (*Totanus calidris*). We have this red and long-legged gentleman rather sparingly with us, but we have him all the year. There are certain spots coastwise not much frequented, where, for seven or eight months of the year, you will seldom if ever fail to meet a few, and when thus disturbed their wild scream sounds beautifully, and accords well with these solitary places, especially where there is a low, hollow murmuring from the ocean. This is another species, which, lapwing-like, will flap about you when in the way of their nest, and for noise they exceed them completely. They generally breed in marshy and boggy places and about the grassy margins of lochs, &c., but I have also found them amongst bents and dry sandy places by the sea-shore.

Common Sandpiper (*T. hypoleucos*). The common sandpiper (or as we have it, "Kittie-wedie," from its cry) is one of our summer birds; there is scarcely one of our streams but has its "kittie-wedies" in the season, and on the banks of which they breed. Single individuals may occasionally be met with along the shore.

Greenshank (*T. glottis*). This is a rarity with us. I have one in my possesion, out of two which were shot in the moss of Banff in 1849.

Avocet (*Recurvirostra avocetta*). More rare than the preceding; at least I know of only one having been seen near here, and it occurred in March, 1847.

Blacktailed Godwit (*Limosa melanura*). Two specimens have been taken here; one in August, 1839, and the other in December, 1840.

Bartailed Godwit (*L. rufa*). A few of these may generally be observed every autumn, either by the sea-side or in our mosses. They do not stop long with us, however, a few days at most sufficing; I suppose we have not suitable localities for them.

Ruff (*Machetes pugnax*). Rare. Three, I think, have been obtained, all birds of the year, and all in autumn.

Woodcock (*Scolopax rusticola*). Though a pair or two have been known to breed, the woodcock can hardly rank with us but as a winter visitor. In some seasons they are more numerous than in others. Does the snow effect the colouring of this species? My reason for asking this question is because, in very severe and snowy weather, I have seen many of them of a remarkably light colour; but in easy seasons, and when there were little or no storms or frost, I have never seen any of them in the same gray-like coating.

Common Snipe (*S. gallinago*). Though many of these breed and remain with us all the year, still we receive great additions annually from elsewhere, and generally towards the end of autumn; but neither during summer nor winter are they so plentiful as they were: drainage is said to be the cause.

Jack Snipe (*S. gallinula*). A winter visitor only, so far as I am aware, and by no means so numerous as the preceding. The jack snipe would appear to be a sort of solitary animal; at least I have never seen more than two of them together (of course in winter), but more commonly only one; in fact, they are nearly always singly. Unlike the others, however, I have seen them return to the same spot three times after being as often fired at.

Thomas Edward.

Rare Birds recently observed in the Isle of Wight.

By A. G. More, Esq., F.L.S.

During the fourteen years which have elapsed since the Rev. C. A. Bury published in the 'Zoologist' for 1844 and 1845, his interesting notes upon Isle of Wight Ornithology, several birds of great rarity have at different times been noticed, and particulars have been obtained which have rendered more complete the history of other species previously known. It was at the suggestion of my friend Mr. Bury, and with the view of collecting under one head the more important of these observations, that the following remarks have been thrown together in the form of a supplemental contribution to our local Fauna. The three or four years last past have proved unusually productive of rare birds. For the knowledge of many of these I am indebted to the accurate observation of my friend Mr. F. Bond, to whom, as well as to Mr. Bury, my best acknowledgments are due, and from Mr. H. Rogers, the intelligent naturalist, of Freshwater, I have also received much valuable information.

Eagle. In a 'History of the Isle of Wight,' by the Rev. Richard Warner (1795), it is stated that "the eagle has been known to incubate among the crags of the Culver Cliff; the *last* known to build came there in 1780, and a countryman who descended to the nest found it to contain one solitary young bird." Warner suggests that "this eagle must have come from North Wales or from the craggy cliffs of the Western Isles, since the offspring appeared (*according to the information he could obtain*) to be of the ring-tail species, a sort very common in those places." There can, however, be little doubt that the sea eagle, besides being the more common, was the more likely of the two species to select such a locality for its nest. In support of this view I see that M'Gillivray states the nestling sea eagle to have the tail-coverts white, and Warner had only hearsay evidence to depend upon. I am not aware that either kind of eagle has visited the island since the instances mentioned by Mr. Bury (Zool. 516).

Osprey. In the course of many years' residence at Bembridge I have only twice met with this noble bird; its visits to any part of the Isle of Wight are indeed few and far between. On the 10th of September, 1856, I saw an osprey resting upon one of the "booms" which mark the entrance to Brading Harbour; when disturbed it rose leisurely, and, after a short flight, struck at a fish in the channel, close to the village; being then descried by several gulls it was driven by them from its fishing-ground. On the 2nd of May, 1859, another osprey visited our harbour, and was observed for some time hovering above the shallow water which covers the mud-flats at high tide. The wind being rather high, I was enabled to approach sufficiently near to see the bird lowering its talons and preparing to strike each time that it descended towards the water; just then some rooks that were passing mobbed the osprey, and it flew straight away, surrounded by a cloud of its clamorous persecutors. In neither instance was the bird seen to return, though anxiously and often looked for.

Kestrel. In the crop of a young male bird, shot in May, 1859, were found several spotted newts (*Lissotriton punctatus*). Though it is well known that different kinds of reptiles are eaten by the kestrel, I do not think any writer has mentioned its preying upon the newt; and as in spring the newts do not frequent the land, it would seem that the hawk, in this instance, must have captured its prey while swimming near the surface of the water.

Buzzards. All three British species are very rare. The common buzzard can no longer be reckoned indigenous, if indeed it be not the rarest of the three. The roughlegged and honey buzzards have been lately killed at least once, and in spring and autumn buzzards of some kind are occasionally seen passing over the island at a considerable elevation. In one instance, a buzzard thus observed at Bembridge was followed and buffeted by two smaller birds resembling sparrowhawks.

Harriers are very rarely met with, and it is believed that the hen harrier no longer breeds in the island. A single example of the marsh harrier, obtained at Freshwater in May or June, 1855, came under the notice of Mr. F. Bond. Of Montagu's harrier I have lately examined an adult male specimen, belonging to Mr. Wavell, of Newport. Another was shot near Freshwater, in August, 1858, as I am informed by Mr. Rogers.

Longeared Owl. Is very scarce and local as a native bird. A few seem to arrive in winter, one having been obtained at that season near Bembridge, in 1858. During many years' observation Mr. Rogers has only once met with the longeared owl at Freshwater, where he obtained a pair, male and female, on the 14th of November, 1859.

Tawny Owl. Is equally rare. One came under the notice of Mr. Rogers at Freshwater in September, 1856.

Woodchat. Has within the last few years twice bred at Freshwater. As one of the young birds was shot by Mr. Rogers in September, 1856, there can be no doubt as to the identification of the species, although the parents were carefully respected. One, if not both nests, with the eggs and young birds, are in Mr. Bond's collection.

Pied Flycatcher. Was unusually numerous on its spring passage last April, and specimens were obtained at different points in the western parts of the island, especially at Freshwater. Though scarcely more than an accidental visitor, the pied flycatcher, in a few instances, has remained to breed in the Isle of Wight. A nest and three eggs were taken by Mr. Rogers at Freshwater, in May, 1858.

Ring Ouzel. A pair of these birds has more than once been observed during summer, as if nesting. In July, 1857, Mr. Rogers shot an adult male, and observed the hen bird in company with it; a pair had been previously noticed in the summer of 1856. In the Undercliff also the ring ouzel has been seen in the breeding-season by Mr. H. S. Leeson.

Golden Oriole. A male bird of this conspicuous species made its appearance at Freshwater in May, 1859, when it was observed by several persons.

Black Redstart. Though appearing in very limited numbers may fairly be reckoned a winter visitor. It seems to prefer the southern and more rocky shores of the isle: and scarcely a season passes without several of these "winter redstarts" being seen, and many more must no doubt escape observation.

Grasshopper Warbler. Has one or two favourite breeding haunts in the vicinity of Bembridge, where it may often be heard at dusk uttering its curious *spinning* note, to my ear more like that of the nightjar than of any other bird. At Bembridge the grasshopper warbler frequents thick bushy underwood rather than marshy localities; when out at night in search of insects we once traced it to its retreat, where we discovered our little friend snugly posted in the very centre of a bush, and were surprised to find him continue his song, utterly regardless of the lantern by whose light we were observing him within a few feet. Mr. Rogers reports the grasshopper warbler a regular summer visitor to Freshwater; but the nest taken on the slopes of the Whitecliff, and formerly referred to this species, is now believed by Mr. Bury to have belonged to the rock pipit.

Reed Wren. Has been observed at Freshwater by Mr. Rogers; in Sandown Marshes it is far less numerous than the sedge warbler.

Garden Warbler. I shot a single specimen in a garden at Bembridge in August, 1848, its song at this late season having attracted notice; the bird has also been obtained about Newchurch and at Freshwater, but it is one of the most uncommon of our summer visitors.

Lesser Whitethroat. Has been found by Mr. Rogers at Freshwater, but is rare in that locality.

Wood Wren. Has been observed a few times in the more wooded parts, having been heard by Mr. Bury in Youngwood Copse, and once near Ryde by myself; but at Freshwater Mr. Rogers speaks of it as being a regular summer visitor, partial to fir plantations.

Dartford Warbler. Besides the localities already given in the 'Zoologist,' this bird is found in the boggy ground near Godshill, known as "the Wilderness," also at Freshwater, &c. Mr. Bury has recently noticed that during winter the Dartford warbler is constantly driven up before his dogs when beating a field of turnips: it is almost needless to remark how well this agrees with what is said of its resorting to the cabbage gardens in Provence.

Firecrested Regulus. May now fairly be reckoned a rare winter visitant to the Isle of Wight, one specimen at least having been obtained in December, 1857, among a number of Reguli that were knocked down with sticks and stones near Alum Bay: out of those brought to him Mr. Beazley, the bird-stuffer, at Ryde, selected the brightest for preservation, and this proves to be a well-marked male of the firecrest. What proportion may have belonged to the rarer kind cannot now be conjectured, but the tameness of the flock sufficiently indicated a recent arrival.

White Wagtail. Was observed near Freshwater by Mr. Bond, in May, 1859, and, during the same month, near Sandown by Mr. Rogers.

Tree Pipit. Is not considered rare at Freshwater, and has been ascertained to occur in one or two other localities, mostly to the north of the chalk downs; but it is decidedly local. On its autumnal migration the bird has been noticed in the Undercliff by Mr. H. S. Leeson.

Rock Pipit. Frequents the muddy estuaries of the north side of the island, as well as the rocky southern shores. *Observation.*—It may well be expected that the scarce Richard's pipit will ere long be added to our Fauna, likely as it is to be found during the winter months upon low-lying meadows and pastures bordering on the sea.

Snow Bunting. Was obtained by Mr. Rogers at Freshwater, during the severe frost of February, 1855, and again at the early date of October 28th, 1859 (Zool. 6780).

Brambling. Was common at the same date as the preceding: a small flock was observed at Bembridge, associated, as usual, with chaffinches, in December, 1848.

Tree Sparrow. Usually seen in severe weather only, and at long intervals; one, however, was killed at Freshwater so late as May, in 1858.

Hawfinch. Three shot near Brading at the end of November, 1859, were observed to feed upon the seeds of ash and maple (*Acer campestris*).

Redpole. Mr. Rogers shot two at Freshwater, in June, 1855, which is in favour of the bird occasionally nesting in the island.

Crossbill. A few were observed at Bembridge early in June, 1856; a small flock remained throughout July, 1859, in the neighbourhood of Sea View, where fir trees abound, and these birds would sometimes make short excursions to Bembridge.

Rosecoloured Pastor. A specimen shot near Sea View, in May, 1854 or 1855, is in the Museum of the Ryde Philosophical Society. A second shot on Headon Hill two years ago was preserved by Mr. Rogers.

Chough. Is believed to have become extinct at the Needles, but a pair builds regularly in the cliffs between Niton and Blackgang Chine.

Hooded Crow. Is certainly very scarce, and I have seen it only two or three times about Brading Harbour. Those who have studied Mr. Knox's remarks in the 'Ornithological Rambles' will not fail to observe how completely the rarity of the hooded crow in the Isle of Wight agrees with what has been ascertained of its distribution in Sussex.

Green Woodpecker. One was killed near St. Helen's in May, 1855. Another was repeatedly heard in Youngwood Copse by Mr. Bury, in the autumn of 1857.

Greater Spotted or *Pied Woodpecker.* Two were observed to nt the trees along the shore at Bembridge early in October, 1857. Rogers has also obtained the bird once at Freshwater, but both ds of woodpecker are only known in the Isle of Wight as occasional ggglers from the mainland. It is somewhat remarkable that the natch has not yet been observed, since it is said to be common in e parts of the opposite coast, and is stated to be migratory in sex.

ee-eater. Once shot near Freshwater, in June, 1855 (see Zool. 0).

ingfisher. Few of the kingfishers, which in autumn frequent our ks and shores, are reared in the Island. The nest has been occaally found in Sandown Level; and Mr. Rogers has discovered a t unusual breeding haunt near Freshwater, where, it appears, the gfishers lay their eggs in the crevices of some caves opening to the No English writer that I am aware of mentions this kind of situn being chosen for the nest, though it would appear that upon the tinent, not fissures of caves only, but also hollow trees are occasion- tenanted by the kingfisher.

ock Dove. Two were obtained at Freshwater in November, 1857. arge flocks occasionally appear in Sandown Level."—*Mr. Bury.*

urtle Dove. Was accidentally omitted from Mr. Bury's List; as ht be expected, the bird is sufficiently common during the summer nths.

edlegged Partridge. Has been twice shot to my knowledge; one Grove and another at Freshwater; both single birds, and probably gglers from the mainland.

uail. Was shot in Whitefield Wood, January, 1859, and at Fresher, in March of the same year. "A single bird frequented a turnip d, near Sandown, in December, 1857, and January, 1858."—*Mr. ry.*

tone Curlew. Occurred at Freshwater in the winter of 1854—5, at Bembridge, late in the autumn of 1857. Two were flushed by Bury, on the 16th of November, 1858, in a turnip field, near ndown.

otterell. Mr. Rogers has once or twice noticed it to visit Fresher, on its spring passage at the end of April. He has seen it eral times in September also.

ray Plover. May be considered, like most of the large sandpipers, ird of double passage. It is occasionally seen in Brading Harbour along the shore at Bembridge in September; and was observed the 8th of May, 1857, on the 30th of May 1858, and again on the

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h of May, 1859, being then in the full breeding plumage: a most arkable and beautiful bird.

Turnstone. Occurred at Bembridge in September, 1857, and again the 31st of March, 1858.

Sanderling. Has been several times obtained at Bembridge about d-winter. It usually keeps apart in small parties of five or six, but lso occasionally associated with the large flocks of dunlins and ring terells (here called "ox birds"). Mr. Rogers considered the sanrling rare at Freshwater; he obtained a specimen on the 20th of cember, 1859.

Squacco Heron. A single bird of this scarce species was shot at Helen's, on the 19th of May, 1858; and was taken, still alive, to Mr. Beazley, of Ryde. When first seen it was described as pecking out on the sea beach, near the Old Church sea mark; and when turbed it did not fly far, but alighted near some tame ducks upon village green, where a shot was obtained without much difficulty. e bird has now passed into the collection of Mr. W. Borrer, of wfold.

Spoonbill. Was shot at Newtown, November, 1845. Another was en during a flood in Sandown Marshes, January, 1849.

Whimbrel. Appears regularly in May, when it associates with the rtailed godwits, it is again seen towards the middle of August and September; but I cannot remember to have met with it in midnter.

Redshank. Is, with the oystercatcher, a bird of double passage, d but rarely seen in Brading Harbour.

Green Sandpiper. Mr. Rogers assures me that the green sandper does not breed at Yarmouth, and those seen in the early autumn e probably migrants that have just led their young brood across om the mainland; but more commonly the bird is a late autumn sitor. One was shot early in December, 1859.

Common Sandpiper. Is known to frequent during summer the ingly beach at the foot of the Freshwater Cliffs and in Tollands Bay; ough its nest has not yet been found, Mr. Rogers is confident that breeds in these localities, different though they be from its usual aunts at the season. A few stray birds may occasionally be met with l quite the end of September, and I have shot the common sandpiper late as the 27th of October, but they mostly leave us long before e latter date.

Greenshank. Has occurred several times in Brading Harbour, at the end of August and beginning of September; less frequently in spring.

Blackwinged Stilt. Has been ascertained by Mr. Bury to have been once killed at the western end of the Island; date not known.

Bartailed Godwit. Unlike others of its tribe, is more often seen at the period of the spring movement. In May, 1858 and 1859, a flock numbering some thirty of these birds remained for about a fortnight in Brading Harbour, and some of those then shot were in the perfection of summer plumage. At this time the difference between the sexes was very strongly marked, and they could be easily distinguished a good way off as the red and the white birds. In no females that I have seen does the bay colour extend over the whole under parts, and if the red plumage is ever completely assumed by them (as seems likely from a remark in Montagu's 'Ornithological Dictionary'*), it is probably only in the case of very old females; those I have examined were but slightly tinged beneath with pale rust-colour, their neck thickly set with narrow dark streaks, and the breast covered with spots and bars of different shades of brown, the upper parts duller than in the male. Evidently the sexes of the bartailed godwits are much more different from each other in spring than those of the blacktailed godwit.

Curlew Sandpiper. I have twice shot at Bembridge, in September, 1848, and on the 25th of August, 1858.

Knot. Is rather scarce in Brading Harbour, where it usually occurs in September. I have only once met with the adult bird, and that was in August, 1852.

Water Rail. Has been ascertained by Mr. Rogers to breed in two or three marshy localities near Yarmouth.

Gray Phalarope. One was caught by the hand at Bembridge, after a gale, in October, 1857. Another was shot off Sea View, in November, 1858. Mr. Bury shot one in a ditch, near Pan Common, quite early in September, 1857. Mr. Rogers obtained a gray phalarope on the 1st of November, 1859.

Bernicle. Is very rare. Besides the specimen mentioned by

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* Under the head of Snipe, Redbreasted, it is stated, in the 'Supplement to the Ornithological Dictionary,' that a bird (shot May 21) with its throat, fore-neck, breast, belly and sides bright bay, proved to be a female. Other writers (as Temminck, in his 'Supplement') speak of the females being a little less bright than the males; but the difference amounts to far more than this, and is well expressed in Mr. Jenyn's 'Manual,' p. 202.

Mr. Bury, two were killed at Freshwater, during a severe frost, in March, 1858 (see Zool. 6097).

Canada Goose. Four were shot at the same time with the bernicles; but their remarkable tameness seems to favour the idea that they were escaped rather than truly wild birds.

Gadwall. "Has been obtained at Yarmouth."—*Mr. Bury*.

Eider Duck. The eider was among the numerous ducks that visited Freshwater in the severe weather of February, 1855. A female was obtained by Mr. Rogers on the 19th of December, 1859.

Tufted Duck. One was seen in Brading Marshes so late as the 26th of April, 1858.

Smew. A young male bird was shot near Freshwater on the 18th of December, 1859 (*H. Rogers*).

Redbreasted Merganser. Is a regular winter visitor. Being a shy bird and clever diver it is seldom shot except when it enters the creeks in hard weather, and those which are thus obtained in Brading Harbour are mostly young birds. Mr. Rogers tells me that at Freshwater the merganser occurs every winter. It is known to the fishermen by the name of "spear duck" or "spear wigeon."

Rednecked Grebe. Has within the last few years been twice obtained near Freshwater by Mr. Rogers.

Great Crested Grebe. I have only once met with it at Bembridge.

Eared Grebe. Was killed off Sea View in December, 1858, in company with another "dusky grebe" of the horned species. Besides the slightly upturned beak, other marks of distinction between the two birds, when in winter plumage, will be found in the eared grebe having the head less tufted, the whole plumage of a darker hue, the fore-neck blacker, and only the first six quills black—the white occupying nearly all the inner web of the seventh,—while in the horned grebe the white does not commence until the twelfth quill. Though sought for many years past, this is the first instance in which I have fallen in with an eared grebe, all the other "dusky" grebes I have examined having proved to belong to the horned species.

Blackthroated Diver. Hardly more than an occasional visitor (see Zool. 4629); but all kinds of "loons" have been scarcer and more difficult to obtain during the last three or four winters.

Ringed Guillemot. Mr. Bond has seen two specimens that were killed near Freshwater in 1856 and 1857. A third was obtained off Niton in June, 1854, as I am informed by Mr. H. S. Leeson.

Black Guillemot. One obtained near Yarmouth in 1853 or 1854 has been seen by Mr. Bond. Yarrell mentions its occurrence in Christchurch Bay.

Little Auk. Occurred off Sea View in November, 1858, and at Freshwater on the 24th of December, 1859.—*H. Rogers.*

Northern Puffin. Mr. Bond obtained at Freshwater, in 1856, a puffin, which he recognised as distinct from the common species. There is still some uncertainty whether the bird be certainly identified with the Normon glacialis of Temminck, of which little more is known than the bare description. I am much indebted to my friend Mr. Bond for permitting me to anticipate his announcement of his discovery of this bird, which is I believe new to the British list.

Shag. One or two pairs are all that are now known to frequent the Freshwater Cliffs in summer.

Sandwich Tern. I first obtained close to the "Noman" Buoy on the 13th of April, 1858, rather an early date, I believe, for the bird's arrival; and again on the 19th of September last we met with two off the entrance to Brading Harbour, an old bird that had nearly assumed the winter plumage, and a bird of the year.

Common Tern. Was numerous in September and October, 1858. At that date no arctic terns were noticed.

Arctic Tern. The only example I have seen was one picked up dead at Bembridge in October, 1857.

Lesser Tern. A small flock of these fairy little creatures was observed flitting about the shingle point at Bembridge early in May, 1850. A little tern was also obtained by Mr. Rogers at Freshwater in the spring of 1855.

Black Tern. Two young and an adult bird visited Brading Harbour in September, 1858, and shortly afterwards I shot a black tern at Spithead as it was sitting on the water with several common terns. About the same date many other specimens were obtained in different parts of the island.

Little Gull. A young bird shot by Mr. Murrough, of the Royal Hotel, in Freshwater Bay, has been seen by Mr. Bond.

Kittiwake. Certainly does not breed at the Needles. The herring gull is the only one of its family that nests every year in the Isle of Wight.

Lesser Blackbacked Gull. Cannot be said to breed regularly on the cliffs. One or two pairs have been known to nest at Freshwater, in 1857 and 1858, but this is said to be a very unusual occurrence.

Common or *Great Skua.* Mr. Bond has once seen this bird in the hands of Mr. Rogers at Freshwater.

Richardson's Skua. Is far from common, and, during many years' observation, I have only once met with a skua on the waters between Bembridge and Portsmouth. Early in September, 1856, I saw a small dark skua in pursuit of some blackheaded gulls at the entrance to Brading Harbour, and the bird was noticed at the same time by several other persons, by whom a black gull was evidently considered a most extraordinary sight.

Forktailed Petrel. A specimen was brought to Mr. Rogers in 1857; another on the 4th of November, 1859.

It may not be out of place to enumerate here the species which have been ascertained to occur in the Isle of Wight since Mr. Bury first drew up his list in 1844-5, when the number amounted to 193. This has now been raised to 219 by the addition of the following birds:—

Marsh Harrier
Woodchat
Golden Oriole
Garden Warbler
Wood Wren
Firecrested Regulus
White Wagtail
Tree Pipit
Bee-eater
[Turtle Dove]
Redlegged Partridge
Sanderling
Squacco Heron
Spoonbill
Blackwinged Stilt
Canada Goose
Gadwall
Redbreasted Merganser
Eared Grebe
Ringed Guillemot
Black Guillemot
Northern Puffin
Sandwich Tern
Common Tern
Lesser Tern
Little Gull
Great Skua

Several of these have already been mentioned in a revised account, written by Mr. Bury for a new guide-book, 'The Garden Isle.' It is singular that neither Temminck's nor the little stint has yet been observed.

A comparison of the Isle of Wight catalogue with that of Sussex, as given in the third edition of Mr. Knox's 'Rambles,'* shows the following results:—

	Raptores.	Insessores.	Scansores.	Grallæ.	Natatores.		
Isle of Wight -	18	94	8	37	62	=	219
Sussex - - -	22	100	9	52	66	=	249
Great Britain -	34	126	18	70	106	=	354

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* Two or three species have been added to the Sussex list from Yarrell (third edition) and the 'Zoologist.'

The Isle of Wight claims nine birds not yet found in Sussex, *viz.*:—

- **Woodchat**
- **Crested Titmouse**
- **Whitewinged Crossbill**
- **Black Woodpecker**
- **Squacco Heron**
- **Canada Goose**
- **Black Guillemot**
- **Northern Puffin**
- **Masked Gull**

A. G. More.

Bembridge, December, 1859.

Occurrence of the Great Gray Shrike (Lanius excubitor) *at Forres, N.B.*—An esteemed friend and excellent naturalist, at Forres, sent me, the other day, a fine specimen of the above bird, which I have put into the hands of a birdstuffer. My friend writes me that "it was shot by Mr. Mackintosh, shoemaker, in a garden on the south side of the town (Forres), between the Free Church and the Mills, having been started from a hawthorn hedge. On the hedge, and at the spot from which the bird rose, the headless body of a robin was found partially devoured. Another individual of the same species (shrike) was seen at the same time; and on a subsequent day one, probably the same, was observed at the same place." The recent appearance of this bird is recorded for several localities (Zool. 6808). The one I now give is the most northerly where the observation has been made and published, and is the third time I have known this bird to have been met with within the province of Moray. —*George Gordon; Birnie by Elgin, January*, 1860.

Occurrence of Larus icthyaëtus, a new British Gull, in Devonshire.—Among the many objects of Natural History discovered during the past months may be noticed the following remarkable bird. This bird, to which may be applied the term of the giant of the blackheaded gulls, was shot by a boatman, Mr. William Pine, while employed by William Taylor, Esq., of Bridgewater, who was engaged in fishing for bass in the river off Exmouth, about the end of May or the beginning of June last; it was in company with a flock of ordinary gulls. Its remarkable size and appearance attracted the attention of the boatman, who, having his gun with him, singled it out, and fortunately obtained the bird, which has since been kindly presented, by the above-mentioned gentleman, to the writer. The usual locality of this bird is the shores of the Caspian Sea, but it is also recorded as having been found on the shores of the Red Sea, the Ganges and the Ionian Islands, as well as accidentally on the margins of the Danube, in Hungary. One is led to suppose that it is by no means a common bird, as examples are rarely seen in collections. It is the Larus ichthyaëtus, *Pall. Itin.* ii., *Ap.* n. 27; *Id. Zoogr.* ii. p. 322, t. 77; *Rüpp. Atlas*, t. 17: the great gull, *Lath. Gen. Syn.* iii. pt. II. p. 370: Xema ichthyaëtus, *G. R. Gray, List of Gall. &c. B. M.*, p. 171. Head entirely, and part of neck pure black; the rest of neck, beneath the body, upper tail-coverts, tail, ends of scapulars and secondaries pure white; the rest of upper surface of a pale plumbeous-gray; quills pure white, with the ends black and the tips white, which latter colour is more prominent on the first quill, while the second has the black also divided irregularly with white near the end; a small white mark above and beneath the eyes. Bill at its base livid-yellow, with a crimson ring-like spot near the tip, which is fuscous-yellow; and the feet fuscous-red. When first obtained the circles round the eyes were red. Length 25 inches; wings 18 inches 6 lines; tarsi 3 inches; bare part of thigh 1 inch 9 lines; bill from gape 3⅝ inches, from forehead 2 inches 6 lines. Pallas informs us that this bird, when flying, emits a hoarse, raven-like cry of "kou, kou." He further says that it lays its eggs on the bare sand, without the least preparation of a nest: they are in shape an oblong-oval, marked with frequent brown spots, with some paler ones intermixed. It is known on the borders of the Caspian Sea by the name of "Rybak" or "Gluchar," and by the Tartars as "Charabalta."—*F. W. L. Ross; Topsham, November* 24, 1859.—[*Obligingly communicated by G. R. Gray, Esq.*]

Notes of the third Capture of Scymnus borealis (Flem.) *off the Scottish Coast.*—The Scymnus borealis (the *Squalus Carcharias* of Müller's 'Prodomus' and Fabricius' 'Historia Naturalis Greenlandiæ,' or, as it is better known to whalers, the "Greenland shark") though common in the Arctic regions, is a rare fish in the British seas. Professor Fleming mentions that he was in possession of the jaws of one—presented to him by the late Mr. Simmonds—which was caught in his presence in the Pentland Firth, in 1803; and that Mr. Edmonstone witnessed one 13½ feet long, which was found dead in Burra Firth, Uist, July, 1824. Mr. Yarrell notices one which was caught off the coast of Durham, in April, 1840, and is now in the University Museum of that city. The present specimen was caught on the morning of the 2nd of May, 1859, in the Firth of Forth, by some of the Newhaven Fishermen, having primarily got entangled in their fishing lines. It was about 10 feet long, and was brought up to the University, in the Museum of which Institution it will be deposited. On being dissected its large stomach was found to be very full and distended with the morning meal, though it is represented by Scoresby and others to be a mild member of a proverbially voracious family. Thus, so far as I am able to learn, this is only the fourth capture on record in the British seas, though it may in all probability have occurred oftener in remote situations without meeting the prying eye of the zoologist;'—the third off the Scottish coast, and the first in the Firth of Forth. It may, therefore, with great justice be ranked as one of the rarest of those fishes which, though not inhabitants, except in rare occasions, of our seas, have yet been classed among its already overburdened Fauna.—*Robert Brown; Edinburgh, January* 11, 1860.

Occurrence of Octopus vulgaris at Babbicombe.—I have just obtained a fine specimen of the poulpe (*Octopus vulgaris*), on Babbicombe beach, where it had been left by this morning's tide. It was dead, but had evidently been alive only a few hours before. Its colour was white, marbled on the dorsal surface of sac, head and arms with red-brown. Its dimensions were as follows:—Length of one arm from mouth, 25 inches; length of sac, ventral side 5½ inches, width 4½ inches, total length 34 inches. I attempted to count the number of suckers on one arm, and made out about 108 pairs, but one-third of these could be enumerated only by the aid of a lens, and on the terminal portion (about an inch) I could no longer separate them even with that aid. Fleming (Brit. Anim. p. 253) says of this species, "with about *two* 240 suckers," by which odd expression I should have supposed he meant 240 pairs, or else that it is a typographical error for 240, meaning 240 in all, or 120 pairs, which would nearly agree with mine. Cuvier (Règne Anim.) gives 120 pairs. An adult specimen of this species is sufficiently scarce to be worthy of record in the 'Zoologist.'—*P. H. Gosse; Torquay, January* 23, 1860.

Supplement to a Note on the Arachnida of Dorset and Hants. (Zool. 6493). By the Rev. O. PICKARD-CAMBRIDGE, B.A.

IN the communication above referred to, on the Spiders of Dorset, &c., I ventured to predict that the British species of this order were not nearly all yet discovered. The results subjoined, of the snatches of leisure that I have been able to devote to the subject during this past season, have fully borne out my prediction. The List annexed contains all the species that I have found this season, not contained in my last year's List; and so it is a kind of supplement to that one.

In the present List there are ten species either new to science, or else hitherto unrecorded as British, although known on the Continent.

In addition also to these, I have seven species belonging to the genera Neriene and Linyphia, and several species of other genera, found on the sand hills at Southport and at Portland, most of which I have reason to believe are undescribed species; but they await further examination.

Order ARANEIDEA.—Family LYCOSIDÆ.

Lycosa nivalis (*Koch*). A specimen of this species was found by myself on the sand hills, Southport, in June, 1858, but not discovered to be L. nivalis until April, 1859, when an extensive series of both adult and immature specimens, proved its identity. It had not before been recorded as British. It is one of the most numerous as well as most active spiders on the sand hills, and, in common with others of this genus, disappears as if by magic the moment the sun is obscured. Its egg-sac is characteristic, being of a pale flesh-coloured pink.

Family SALTICIDÆ.

Salticus floricola (*Koch*). An adult male and female of this pretty species (hitherto unknown as British) were discovered by myself, on the north sand hills, Southport, in June, 1859, at the roots of grass and moss. The male is new to Science; the female alone being previously known to Arachnologists.

S. reticulatus. Specimens of this minute Salticus were captured, when in company with Mr. Meade, in a wood near Bradford, among moss and decayed leaves, in May, 1859.

Family THOMISIDÆ.

Thomisus claveatus (*Walck*). A specimen of this very peculiar and distinctly marked Thomisus was found by myself near Pennsylvania Castle, Portland, in September, 1858, but it was unfortunately lost before its species was ascertained. This last October (1859), however, I have succeeded in capturing, on the same ground under stones and pieces of rock, several adult specimens. Walcknäer speaks of it as a very rare spider on the Pyrenees and in Egypt; its rarity he accounts for, from its sparing fertility, its egg-sac only containing five or six eggs at a time. It is the most sluggish, inactive species that I have met with, of even this generally very inactive genus.

T. audax. Three specimens of this species were captured on the sand hills, Southport, in May, 1859.

Family DRASSIDÆ.

Drassus pumilus. Adult males and females of this well-defined species were discovered by myself on the north sand hills, Southport, during the summer of 1859. They were found both running on the bare sand, and also lurking at the roots of moss and grass: it seems, however, to be a rare species, and has not hitherto been recorded as British. It has a remarkable facility of burying itself in the loose sand at the approach of danger; several of those I captured were out of sight in a minute.

D. clavator. An adult male of this species (new to Science) was discovered by myself on the north sand hills, Southport, in April, 1859, by raking with a stick under the rooty ledges of the sand hills. I captured also an immature female under a stone on Kirkby Moss, near Liverpool, June 14th, 1859; and in October of the same year, I found it in abundance, under stones and pieces of rock, close to Pennsylvania Castle, Portland. It is a fierce, active spider, and, among the rocks, very difficult to capture. A description of this species, to which I have given the name "clavator," from the very large club-shaped digital joint of the palpi, will appear shortly in the 'Annals and Magazine of Natural History.'

D. lapidicolens (Clubiona lapidicolens, *Walck.*). An adult male was captured at Freshwater, Isle of Wight, in May, 1859, by my friend Frederick Bond, who kindly forwarded it to me, together with specimens of the new Ciniflo (C. mordax) discovered there by him last year. This is only the second record of the occurrence of "D. lapidicolens" since its insertion in the list of British spiders, by the late Dr. Leach.

Family CINIFLONIDÆ.

Ciniflo ferox (*Koch*). The British species hitherto known as Ciniflo ferox turns out, on the capture of the true "ferox" of Koch, at Portland, in September last, to be a distinct species; to which Mr. Blackwall has therefore given a fresh name, "similis." C. ferox (*Koch*), was captured at Portland by myself in 1857, and since again in September, 1859, and has also been taken at Bradford by Mr. Meade, but it has not until now been recorded as a native of Britain.

Family THERIDIIDÆ.

Theridion riparium. An adult male of this distinctly] marked species was captured and sent me, from Bath, in July, 1859, by my friend T. W. Huthwaite.

T. pictum. I found an adult female of this rare and handsome spider on a holly-bush at Formby Parsonage, near Liverpool, in June, 1859; and subsequently I found it tolerably abundant in a greenhouse and on holly-bushes at Birkdale Park, Southport: only one previous instance has been recorded of its capture in Britain.

T. Carolinum. This species, though local, is abundant in many places on the sand hills, Southport, at the base of grass-stems and other herbage, in May and June: I also beat several off a Scotch fir-tree on Simmons-wood Moss, near Liverpool, in June, 1859. It is a very pretty, but very variable species.

T. pallens. On Scotch firs, Simmons-wood Moss, June, 1589, and in September of the same year; abundant on laurels in the Rectory Gardens, Milton, Northamptonshire; its curiously shaped egg-cocoons were fixed to the under sides of the laurel-leaves.

T. variegatum. Found sparingly, together with its beautiful pear-shaped egg-cocoons, among grass and rubbish on the sand hills, Southport, during the summer of 1859.

T. signatum. An immature male of this anomalous-looking Theridion, taken under a piece of rock at Portland, in October, 1859.

Family LINYPHIIDÆ.

Linyphia vivax. Specimens of this species were sent me from Bath (together with other rare and local spiders), in October, 1859, by T. W. Huthwaite.

Linyphia Fenella. An adult male and female taken among herbage on the sand hills, Southport, in July, 1859. The male new to Science.

L. gracilis. An adult male at the roots of grass at Aketon, in Yorkshire, July, 1859.

Neriene gracilis. At Scarisbrick, Lancashire, Aketon, Yorkshire, and also at Bath and Portland, in 1859.

N. apicata. Several specimens among herbage on the sand hills, Southport, in July, 1859.

N. fusca. Several from underneath seaweed on the shore at Southport, in September, 1859; and also received from T. W. Huthwaite, taken at Bath; and I met with it also at Milton, in Northamptonshire.

N. agrestis. From underneath seaweed on the shore, Southport, September, 1859.

N. vigilax. Among herbage on the sand hills, Southport, in July, 1859.

Walckenäera monoceros. A single adult male of this oddly-shaped spider was discovered by myself at the roots of moss on the sand hills, Southport, in September, 1859, and shortly after several more beneath pieces of rock and stones at Portland. This species has not before been recorded as British.

W. fastigiata (*Argus acuminatus*, Walck). A specimen of this species (new to Britain) was discovered by myself on the sand hills, Southport, June, 1859.

W. aggeris. This species (new to Science) was discovered by myself in plenty at the roots of grass and rubbish on the sides of dry banks and ditches, on the sand hills, Southport, during the summer of 1859. A description of this species, to which I have given the name of "aggeris," will shortly appear in the 'Annals and Magazine of Natural History.'

W. parallela. This species (not before recorded as British) I discovered under a piece of rock, near Pennsylvania, Castle Portland, in October, 1859.

Pachygnatha Clerckii. Abundant under Hatta Wall, Formby Parsonage, June, 1859.

With regard to the method of preserving spiders I would add to what I said (Zool. 6493) that small bottles are now found, both by Mr. Meade and myself, to be far preferable to tubes; for the bottles can be corked infinitely tighter than the tubes, and so the evaporation of the spirit, which was very rapid with the tubes, is almost prevented. The bottles are not much more expensive, and, as the shoulder need be but very slight, the mouth of the bottle will still be of sufficient size to admit of almost as large a spider as the body of the bottle can well contain. Up to this season the nature of the ground I have searched (wood and heath) has made sweeping and beating the successful modes of looking for spiders, but this season these methods have been impracticable on the sand hills, among short herbage and coarse star-grass. Among these I have had to go on my knees and separate the grass and rubbish, when a living world, both of spiders and beetles, has generally been laid open.

O. Pickard-Cambridge.

Errata.—Zool. 6497, *for* Cespiticola *read* Cespiticolis; p. 6499, *for* Pholeus *read* Pholcus; p. 6501, *for* extansa *read* extensa; *and same page, for* Enoculina *read* Senoculina.—*O. P.-C.*

Double-broodedness.—The following is a description of the larva of Hemerophila abruptaria:—Ground-colour clay-brown mottled with faint green, slightly rugose. Head whitish. From the head proceed, as far as the third segment, three dark lines. The two outer ones are bordered by a clay-coloured line, which extends to the anal segment. In the space formed by these lines are twelve triangular dorsal marks, the apices of which meet down the middle of the back. On the anal segment is a black ring. The ground-colour is sometimes chocolate-brown, the markings being barely discernible. Length 1½ inch. Food, privet. The above description is taken from larvæ alive at the present moment. This latter fact induces me to make a few remarks upon the question of double-broodedness. I am not aware that H. abruptaria is considered to produce two broods in the year. The longer I investigate this question (and I have done so with great care the last two years) the more satisfied I am that some insects, in one sense are, and in another are not, double-brooded. By double-brooded, in its strict signification, I understand eggs to be hatched, say, in April; these produce perfect insects in the summer; in their turn they lay eggs; the larvæ produced from them feed up and become pupæ some time in the autumn, and *all* the insects emerge the same year. In such a case I understand an insect to be double-brooded in its strict sense. But there is another kind of double-broodedness, which I term *partial; i.e.*, eggs are laid, as before, in the summer; these become pupæ in the autumn; but only three or four, sometimes only one or two, perfect insects appear that year, the remainder passing through the winter in that state, and emerging in the following spring. Assuming my first definition to be correct, I still adhere to the opinion I have expressed on former occasions,—that many insects termed double-brooded are not so, *e.g.*, Notodonta dictæa, N. camelina, N. ziczac, Ptilodontis palpina, &c. Like those who differ from me—*viz.*, Messrs. Crewe, Gascoyne and others—I have paid great and increasing attention to this matter, especially since I came into Derbyshire, where (at least in my locality) the dearth of insects is so great that I have had ample time to devote myself more particularly to the investigation. I give the following as some of the results. Having prefaced these remarks with a description of the larva of H. abruptaria, I will commence with that insect. My friend Mr. Crewe, at the beginning of last summer, sent me about a dozen and a half nearly full-fed larvæ of this species, with a request that I would take care of them, as he was leaving home for a tour in Scotland. They fed up tolerably well, and in due course went down. After the lapse of a month a crippled female appeared, and was followed, three days later, by a crippled male. Having kept the female alive, I obtained from this pair of cripples a dozen eggs. The rest of the brood from which these two came are still (January) in the pupa state. The dozen eggs hatched almost immediately; the young larvæ, however, feeding so slowly that I at once suspected they were going to bother me by hybernating. When about one-third fed I showed them to Mr. Crewe, who paid me a flying visit on his return from Scotland. In spite of blandishments, such as juicy food and plenty of it, to persuade them to feed up and have done with it, they turned sulky, and exercised a doubtless praiseworthy moderation, continuing, day after day, to nibble at their food (privet) throughout the winter. They are now nearly full-fed, but show no signs of going down; and every time I remove the gauze cover I find them rigidly extended, with a resolution, I would venture to say, worthy a better cause. It is from these I have taken my description. Now, from the circumstance of these two crippled specimens having emerged from the pupæ in the autumn, do I infer that H. abruptaria is a double-brooded insect? Certainly not, at least in the sense in which I understand the term. To prove it double-brooded (strictly) *all* should have become perfect insects. Had they done so I should have said, *primâ facie*, it was a double-brooded insect. But, even so, I should not have been quite satisfied. I should continue the investigation for two or three seasons longer; and if I then found that it was the invariable custom for all the pupæ to produce insects in the autumn, I should unhesitatingly pronounce it a strictly double-brooded species. If, on the contrary, I found a very small minority only coming to maturity, the remainder passing through the winter as pupæ, and if I found this to be the *rule*, I should just as unhesitatingly say that the insect was—anything you like, except double-brooded. The next example I shall adduce is that of P. palpina. A number of larvæ, recently hatched, were sent to me, at the same time as those above-named, by Mr. Crewe. These fed extremely well, and all went down, in number I suppose about thirty. One single insect, a male, appeared about three weeks afterwards. This specimen I showed to Mr. Crewe. All the others are still in pupa. A precisely similar circumstance occurred in 1858, in reference to N. ziczac. I found about sixteen eggs of this species in June. In due time they hatched, fed and spun up, or went down, whichever is the best term. In this case also one insect, and one only, a male, emerged the same year. The last instance I shall bring forward is that of S. conspicuaria. In the autumn of 1858 Mr. Crewe gave me six pupæ of this insect. These all produced perfect insects the following May. From these I obtained eggs, as I was anxious to perpetuate the species, and, if possible, introduce it into the county. In this latter effort I fear I have failed, much to the satisfaction of some I have no doubt. The larvæ hatched from these eggs fed up very rapidly, and went down, in number about fifty-six. Greatly to my surprise, and I may add pleasure, three weeks later one male and two females appeared in the perfect state. From these, again, I obtained a batch of eggs. With equal rapidity these fed up and went down; and both sets of pupæ are now *in statu quo*. Once again I ask, am I to infer from this fact that S. conspicuaria is double-brooded in the strict signification of the term? In my opinion most assuredly not. To carry out my view, the whole batch of fifty-six pupæ should have produced perfect insects, but only three appeared as above stated. When I say the whole fifty-six should have produced insects, I mean, of course, that none should have survived to "put in an appearance" next spring. It is but honest in me to state that these observations, made by me in doors, are apparently utterly at variance with those made by Mr. C. R. Bree out of doors (Zool. 5871). Mr. Bree states that in the beginning of August a second brood appears, more numerous than the first, *i. e.*, in May. Now *my* August brood consisted of three out of fifty-six, while my brood in the forthcoming May will comprise the remaining fifty-three, *plus* those produced from the eggs laid by the August three, about as many more! Should these remarks of mine meet his eye or those of Mr. Crewe, I shall feel much obliged if they would communicate, in the pages of the 'Zoologist,' some additional and more specific information on the subject. I ask this because I know that Stowmarket is the head-quarters of the insect, and that both gentlemen had ample opportunities of observing its habits. To proceed. Judging exclusively from my own experience, I believe that S. conspicuaria, N. dictæa, N. ziczac, P. palpina, and probably many others, are *partially* double-brooded; that is, a few specimens emerge the same year (for what particular purpose I do not know, except perhaps to obviate the danger of extirpation,— a circumstance not unlikely to occur in the present day), while the vast majority live through the winter in the pupa state. Nay, I go further, and must add that according to my experience even this very limited appearance is exceptional. I readily allow that the remarks of Mr. Gascoyne, of Newark (Zool. and Intell. *passim*), militate strongly against my theory. He speaks of whole broods appearing in the autumn from eggs laid in the spring. From what I have already stated it will be seen how completely this is opposed to my experience. I do not attempt to explain the discrepancy; but if these few remarks are received in the spirit in which they are offered, *viz.*, that of investigation and inquiry, they may probably provoke a friendly (and I deprecate any other) discussion. If so, from among your numerous correspondents some further and valuable information may reasonably be expected. — *Joseph Greene; Cubley Rectory, Doveridge, Derby, January,* 1860.

Description of the Larva of Eupithecia tenuiata. — Short and stumpy. Ground-colour dirty yellowish-green. Sides and centre of back slightly tinged with rose-colour. Down the centre of the back a row of very indistinct dusky spots, becoming confluent in a black line at the anal segment, and bordered by an interrupted black line. On each side a row of slanting tubercular flesh-coloured stripes. Head and fore feet black. Feeds on the catkins of sallow, in spring. Full-fed the end of March and beginning of April. In appearance it much resembles the larva of Eupithecia Haworthiata. I am indebted to the kindness of Mr. Doubleday for the larva from which the foregoing description was taken.—*H. Harpur Crewe; Medsted, Alton, Hants, December* 23, 1859.

Description of the Larva of Eupithecia nanata. — Long and very slender, tapering towards the head. Ground-colour white or greenish-white, with a chain of pear-shaped red dorsal spots, bordered on either side by an interrupted line of the same colour, and becoming confluent on the capital and anal segments. Sides spotted with red. Belly with a central red line running the whole length. Body clothed with a few very short hairs. A very pretty variety of this larva has the ground-colour bright green, with a series of tooth- or pear-shaped white dorsal spots, intersected by a central horizontal dark green line, becoming purple at the anal tip. Spiracular line white, broken. Back sprinkled with a few short black hairs. Feeds on the flowers of Calluna vulgaris, in August and September. Pupa enclosed in an earthen cocoon. Thorax and wing-cases yellow. Abdomen deeply suffused with red. Thorax considerably elevated. The pupa of the green variety is suffused all over with green.—*Id.*

Xanthia ocellaris. —Through the kindness of Mr. Doubleday, I am able to give more conclusive information on this insect than I was (Zool. 6504), and as it may interest the readers of the 'Zoologist,' I subjoin his remarks. He states that he has received authentic specimens of Xanthia gilvago and Xanthia ocellaris from M. Bellier de le Chavignerie, and that all the British specimens belong to the former species. He also adds that Xanthia ocellaris is very distinct. The upper wings more pointed, slightly falcated, and the nervures paler than the ground-colour of the wings. I have availed myself of Mr. Doubleday's kind information, and forward the above as a supplement, if I may be allowed to call it such, to my previous notes.—*Robert Anderson; York, January* 11, 1859.

Proceedings of Societies.

Entomological Society.

December 5, 1860.—Dr. Gray, President, in the chair.

Donations.

The following donations were announced, and thanks ordered to be presented to the donors:—'Genera des Coléoptères,' par M. T. Lacordaire, Tome v., and 'Atlas,' Livraison 1; presented by the Author. 'Monographie des Elatérides,' par M. E. Candèze; by the Author. 'Transactions of the Zoological Society,' Vol. iv. Part 6; by the Society. 'Farm Insects,' Part 7; by the Author, John Curtis, Esq., F.L.S. 'The Zoologist' for December; by the Editor. 'The Proceedings of the Zoological Society, 1859,' Part 2; by the Society. 'The Athenæum' for October and November; by the Editor. 'The Literary Gazette' for November; by the Editor. 'The Journal of the Society of Arts' for November; by the Society. 'The Entomologist's Weekly Intelligencer,' Nos. 163 to 166; by H. T. Stainton, Esq.

Election of Members.

Roland Trimen, Esq., 71, Guildford Street, Russell Square, and Henry Johnson, Esq., 31, St. Mark's Crescent, Regent's Park, were balloted for and elected Members of the Society.

Exhibitions.

Dr. Wallace exhibited some specimens of the Coquilla nut from South America, the kernels of which had been eaten by the larva of Bruchus Bactris, of which he also exhibited examples.

Mr. Janson stated that he had had the larva of this species alive for the last five months.

Dr. Wallace also exhibited some specimens of Myrmica domestica, which he had lately found in great numbers in his own residence: as this was in the immediate neighbourhood of the British Museum, he thought the authorities of that establishment ought to take every precaution to prevent it from obtaining an entrance therein, as it appeared to be impossible to exterminate them when they once obtained a lodgment, the nests apparently being situated in the foundations of the houses.

Mr. Baly exhibited a fine new Hispa, sent from Batchian by Mr. Wallace, and read the following description of it:—

"OXYCEPHALA IMPERIALIS.

"Elongata, subdepressa, pallide fulva, nitida; antennis (basi excepto) piceis; thorace transverso-quadrato, basi ad apicem paullo ampliato, crebre punctato; elytris postice attenuatis, metallico-cyaneis, apice externo rufis, fascia lata obliqua, vix ante mediam posita, extrorsum abbreviata, pallide fulva. Long. 7 lin.

"Hab. Batchian."

Mr. Stainton exhibited a specimen of Margarodes unionalis, a species new to Britain, taken by Mr. King, at Torquay.

Mr. Fereday exhibited a beautiful series of Sphinx Convolvuli, captured this season; and a variety of Colias Edusa, having the central spot on the anterior wings much suffused on the under side.

Dr. Knaggs brought for distribution amongst the members a number of specimens of Amara plebeia, found in his own field at Kentish Town.

Mr. Tegetmeier exhibited specimens of Apis ligustica, of which he had lately received living examples of the queen and workers from the Continent, where it is considered a more profitable species to the owner than the common honey bee; he hoped, during the next season, to test the correctness of this opinion.

Mr. Stainton read a paper "On the Geographical Distribution of British Butterflies."

Some conversation ensued on the probability that the few examples of Vanessa Antiopa, Argynnis Lathonia, &c., which are found in this country, are specimens bred on the Continent, and flown across the channel during favourable weather. Mr. Waterhouse observed that whilst crossing from Liverpool to Dublin in a steamer, a few years ago, on a remarkably calm day, when the sea was as smooth as glass, he noticed the surface of the water was literally covered with butterflies and other insects, which seemed to keep pace with the steamer; thousands of them must have crossed the channel that day: he was convinced that the powers of flight possessed by insects could hardly be over-estimated.

The Secretary read a paper by Mr. Wallace, intituled "Notes on the Habits of Scolytidæ and Bastrichidæ," in which the author expressed his opinion (founded on extensive observations of the habits of those insects in the islands of the Eastern Archipelago) that they only attack trees which are already in a diseased or dying state.

January 2, 1860.—J. O. WESTWOOD, Esq., F.L.S., in the chair.

Donations.

The following donations were announced, and thanks ordered to be presented to the donors:—'The Transactions of the Linnean Society,' Vol. xxii, Part 4; 'Journal of the Proceedings of the Linnean Society,' Vol. iv. No. 15; presented by the Society. 'Exotic Butterflies,' Part 33; by W. W. Saunders, Esq., F.R.S., &c. 'The Entomologist's Annual' for 1860; by the Editor, H. T. Stainton, Esq. 'The Zoologist' for January; by the Editor. 'The Athenæum' for November and December; by the Editor. 'The Literary Gazette' for December; by the Editor. 'The Journal of the Society of Arts' for December; by the Society. 'Descriptions of some Asiatic Lepidopterous Insects belonging to the Tribe Bombyces,' by Frederick Moore, Assistant to the Natural-History Department of the Museum, India House; by the Author. 'List of the Specimens of Lepidopterous Insects in the Collection of the British Museum,' Part xix. Pyralides; by the Author, Francis Walker, Esq. F.L.S., &c. 'Catalogue of British Coleoptera,' sheets H and I; by the Author, G. R. Waterhouse, Esq., F.L.S.

Election of a Member and Subscriber.

J. W. May, Esq., 19, Clifton Road, St. John's Wood, was balloted for and elected a Member of the Society; and R. G. Keeley, Esq., 11, Sydney Terrace, Marlborough Road, Chelsea, and W. G. Pelerin, Esq, 28, Hertford Road, De Beauvoir Square, were elected Subscribers to the Society.

Exhibitions.

Mr. Samuel Stevens exhibited a large box of insects of various orders, sent from Siam by M. Mouhot.

Mr. Groves exhibited a specimen of Libellula pectoralis of De Selys, a dragon-fly new to Britain, taken in June near Sheerness.

Mr. Westwood exhibited a small Lepidopterous larva with eight ventral and two anal prolegs, preserved in spirits, which he had received from a correspondent, who, whilst asleep, was aroused by a smart bite inflicted on his instep, and who, on examination of the part affected, discovered the larva exhibited. Mr. Westwood observed that although some Lepidopterous larvæ were known to be carnivorous, and many species in confinement would devour other larvæ, yet, taking for granted that the larva exhibited was the real culprit in this case, this was the first instance he had heard of their attacking the human species. The larva appeared to be that of one of the Tineidæ, but there was no appearance of a case in which it might have resided.

Mr. Westwood also exhibited an elytron of a beetle (*Broscus cephalotes*) received from Sir C. Lyell, who had sent it to him as that of a "fossil" beetle, having been obtained from Mundesley, in Norfolk, from a formation containing fish remains (as Agassiz determined them) of extinct species, although associated with recent shells. Mr. Westwood, however, had no doubt that the elytron was a recent one, and it was not difficult to account for it being found in such a situation, as the species is common under marine rejectamenta on the coast, and it might readily be supposed that the working of worms might have carried down so small an article as the elytron of a beetle. The fact, however, possesses a certain interest in connexion with that of the flint arrowheads in the drift, which is attracting so much attention at the present time.

Dr. Allchin exhibited a small flask, constructed of brass, for introducing small quantities of chloroform into pill-boxes containing Lepidoptera, for the purpose of killing them; he and others had experienced much inconvenience in using chloroform for this purpose when engaged in collecting, and the instrument exhibited was calculated to remove all difficulty, as by means of it a single drop could be introduced into a pill-box without any risk of spilling or evaporation.

Part 4 of the current volume of the 'Transactions,' recently published, was on the table.—*E. S.*

YORK ENTOMOLOGICAL SOCIETY.

The Annual Meeting of this Society was held on the evening of Monday, the 2nd inst., at 7, Castlegate, at which Mr. Prest presided. T. Hornby, Esq., of Barmby Moor, near York, was elected a Member.

The Meeting then elected the following officers for the ensuing year:—President, Rev. J. D. J. Preston; Vice-Presidents, Rev. F. O. Morris and Mr. W. Prest; Committee, Messrs. F. J. Wade, J. Robinson, C. Helstrip, T. Wilson and J. T. Carrington; Treasurer, Mr. J. Birks; Secretary, Mr. R. Anderson.

The following is a copy of the Annual Report:—

"In presenting the third Annual Report, it is satisfactory to observe the steady progress of the Society. During the past year thirteen new members have joined, whilst it has only sustained the loss of one, leaving an increase of twelve members, as compared with the corresponding period of the previous year. The ordinary monthly meetings have been well attended, and many objects of interest have been exhibited, amongst which was a specimen of Anchocelis rufina, captured near York, by Mr. Birks, with singular abdominal appendages, not previously noticed, but which it is stated subsequent investigation has shown to be common to other species of the genus. From a record kept of the captures during last year, a list has been prepared, showing that five hundred and twenty-three species of Lepidoptera have been taken by the members, of which the following are additions to the previously recorded Fauna of this locality, viz.:—Liparis monacha, Acidalia inornata, Collix sparsata, Dicranura bicuspis (pupa), Apamea connexa, Agrotis præcox, Cloantha Solidaginis, Acentropus niveus, Spilodes sticticalis, Ephestia pinguedinella, Argyrolepia cnicana and Psyche roboricolella, all of which (excepting Dicranura bicuspis) have been exhibited at the meetings. The following are also included in the captures of 1859:—viz., Acherontia Atropos, Sphinx Convolvuli, Sphinx Ligustri, Macroglossa bombyliformis, Sesia culiciformis, Lithosia helveola, Epione vespertaria, Ennomos fuscantaria, Geometra papilionaria, Phorodesma bajularia, Acidalia rubricata, Acronycta leporina, Acronycta Alni (larva), Acronycta Ligustri, Leucania pudorina, Mamestra abjecta, Tæniocampa opima, Tæniocampa Populeti, Orthosia suspecta, Heliothis dipsacea, Pyralis glaucinalis, &c.

"In consequence of the increasing attendance of members, bi-monthly meetings have been appointed for the winter months.

"Papers on objects of interest have been read, including one 'On the Proper Method of Setting Insects,' by the Rev. F. O. Morris (President), and one 'On the Distinctions of certain Species of Lepidoptera,' by Mr. Anderson. Several useful entomological and botanical works have been added to the library. The thanks of members are due to Mr. W. Winter and the Rev. F. O. Morris for donations of local species for distribution. Although Lepidoptera at present appear to absorb the attention of the members, it is hoped that in future other branches of the Science will receive due attention, and that persons studying them will not be backward to enter the Society, as the Committee will always endeavour to add works on other sections of Entomology, and give every facility for their study."—*Robert Anderson, Hon. Sec.*; *York, January* 9, 1860.

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Mr. W. Penney, Dr. Knaggs, Mr. J. Dutton, Mr. J. Couch, &c., have been recei
since the 1st of January. Most of them will appear shortly.

To Entomologists.

MR. J. C. STEVENS begs to announce that he will sell by Aucti
at his Great Room, 38, King Street, Covent Garden, on SATURDAY, Febru
11th, at Half-past Twelve, precisely, a valuable Collection of British LEPIDOPTE
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